

## THE PERFORMANCE OF HIGHER RATES OF IMIDACLOPRID AS A SEED TREATMENT ON EARLY SEASON INSECT PEST OF COTTON

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### Abstract

GAUCHO (Imidacloprid) has been marketed as a seed treatment for cotton since 1996. GAUCHO is active against many early season insect pests that affect cotton. Its spectrum of insect activity includes *Frankliniella fusca* (tobacco thrips), *Sericothrips variabilis* (soybean thrips), *Thrips tabaci* (onion thrips), and *Aphis gossypii* (cotton aphids). Heavy thrips and aphid infestations can inhibit plant growth, which can lead to delayed crop maturity, and, in some cases, heavy thrips populations can damage growing terminals. Recent label changes now allow for the use of GAUCHO on cottonseed at a rate of 0.375 mg ai/seed or 8.0 oz ai/cwt. Results from university conducted seed treatment trials across the Mid-South and Southeastern United States demonstrate the added benefits of extended thrips and aphid protection with this new rate. GAUCHO at 0.375 mg ai/seed significantly reduced thrips damage and adult and immature thrips counts when compared to the current standard rate of 4 oz ai/cwt.

### Introduction

GAUCHO GRANDE is active against several early season sucking insect pests that affect cotton. Imidacloprid seed treatment registrations in the United States, include canola, sorghum, potatoes, and wheat. Imidacloprid applied to cottonseed is taken into the cotyledons and translocated into the plant through the root system. Its spectrum of insect activity includes *Frankliniella fusca* (tobacco thrips), *Sericothrips variabilis* (soybean thrips), *Frankliniella Occidentalis* (western flower thrips), and *Aphis gossypii* (cotton aphids). Heavy thrips and aphid infestations can inhibit plant growth, which can lead to delayed crop maturity; and in some cases, heavy thrips populations can damage growing terminals. GAUCHO GRANDE delivers exceptional protection against early season damage caused by aphids and thrips, including western flower thrips, along with early season activity against plants bugs.

### Materials and Methods

Trial results reported were obtained from small plot trials that were conducted by university cooperators across the Mid-South and Southeast cotton growing states, including Virginia, North Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas and Tennessee. A summary of data involving eight universities was evaluated. Cotton was grown using normal commercial practices for each area. Data collected from these locations, include adult and immature thrips per plant, thrips damage ratings, bloom counts, plant bug mortality ratings and yields.

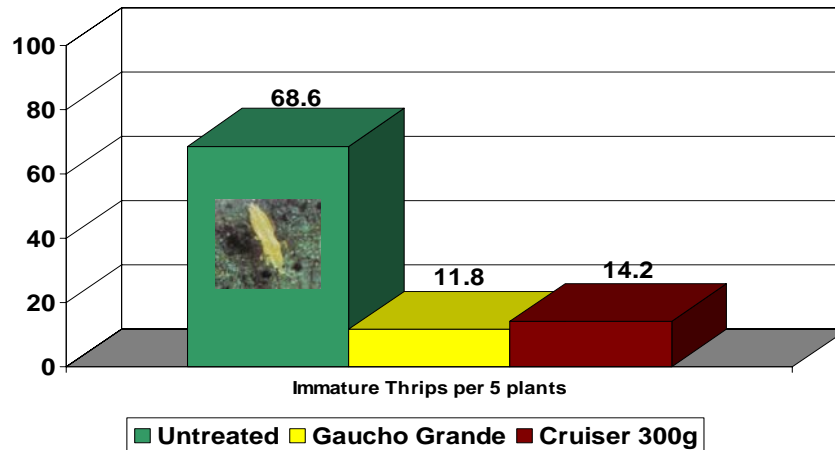
### Results and Discussion

Cotton plants treated with GAUCHO GRANDE had lower immature thrips per 5 plants (Figure 1) and lower thrips damage ratings (Figure 2) when compared to the untreated insecticide check. These thrips damage ratings and thrips counts were taken and averaged over three to six weeks after planting. GAUCHO GRANDE also had higher bloom counts per 30 row foot and higher yields (Figure 3) when compared to the untreated insecticide check. GAUCHO GRANDE had less thrips damage and lower immature thrips counts per 5 plants when compared to Cruiser (Figures 1 and 2). GAUCHO GRANDE also had higher yields when compared to Cruiser (Figure 3).

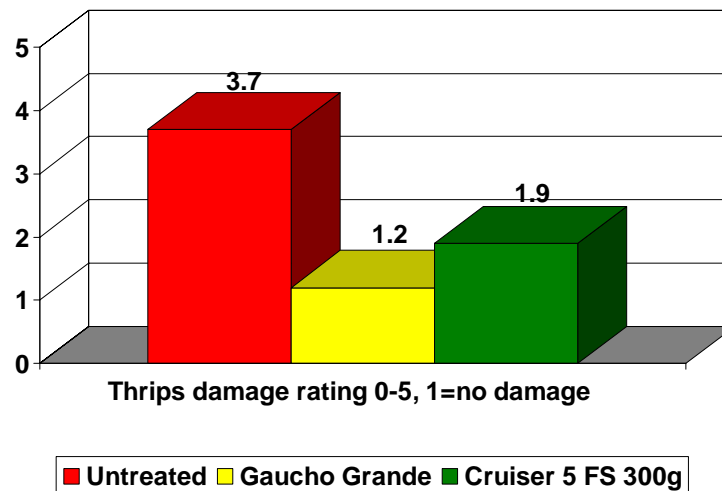
### Summary

The results from these trials indicate that Gaucho Grande delivers excellent crop and pest management flexibility, providing the grower with optimum early season insect protection. Gaucho Grande provides extended protection against early season insect pests including early season damage caused by aphids and thrips.

**Table 1. Gaucho Grande Immature Thrips Summary  
(Average of 12 ratings)**



**Table 2. Gaucho Grande Thrips Damage Summary  
(Average of 8 ratings)**



**Table 3. Gaucho Grande Yield Summary  
(Average of 4 locations)**

